

chapter 7.22

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The CPU C can only perform floating-point add and subtract operations, and X and Y are floating point elements. The vector processor to issue 2 loads, 8 matrix elements in parallel from A and 8 matrix elements from B into a single vector register and then perform a vector subtract. The result put in memory. Since the vector processor does not have comparison instructions, we would have CPU A perform 2 parallel conditional jumps based on floating point registers. Suppose increment two counts based on the conditional compare and then just add the two counts for the entire matrix.

② This problem is to show that it is difficult to perform operation on individual vector elements when utilizing a vector processor. What might be a nice instruction to add would be a vector comparison that would allow for us to compare two vectors and produce scalar value of the number of elements where one vector was larger than the other. This would reduce the computation to a single instruction for the comparison of 8 FP number pairs, and then an integer computation for summing up all of these values.